

Notice of Allowability

Application No.

09/901,520

Examiner

Aravind K. Moorthy

Applicant(s)

SMITH ET AL.

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6 April 2006.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

CHRISTOPHER REVAK
PRIMARY EXAMINER

Cell 4/13/06

DETAILED ACTION

1. This is in response to the Terminal Disclaimer filed on 6 April 2006.
2. Claims 1-25 are pending in the application.
3. Claims 1-25 have been allowed.

Response to Arguments

4. Applicant's arguments, see pages 2-5, filed 6 April 2006, with respect to claims 1-25 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.
5. In light of the filed Terminal Disclaimer the examiner withdraws the double-patenting rejection.

Terminal Disclaimer

6. The terminal disclaimer filed on 6 April 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Smith et al U.S. Patent No. 6,973,566 B2 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

7. Claims 1-25 are allowed.

Independent claim 1 sets forth, among other things, a standard mode driver to extract encrypted data from a digital received signal and a privileged mode driver for decrypting encrypted data, which includes one or more control codes. The decrypted control codes are provided to a physical layer hardware unit, which uses the decrypted control codes to configure assigned transmission parameters of the physical layer hardware unit. Independent claims 15 and 25 set forth, among other things, receiving

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encrypted data over a communications channel in a standard processing mode of a processing unit and transitioning the processing unit into a privileged processing mode. Claims 15 and 25 also sets forth decrypting encrypted data in a privileged processing mode, extracting control codes from the decrypted data in the privileged processing mode, and transmitting an upstream signal over a communications channel based on transmission assignments defined by the control codes. The applicants use a separate standard mode driver and a privileged mode driver to enhance security in a software implemented communication system, where standard drivers are susceptible to external tampering. The applicant defines privileged mode as "a mode of operation not visible to other processes, such as applications or drivers, executing on the computer.

The closest prior art found to the applicant's invention was England et al U.S. Patent No. 6,986,059 B2 (hereinafter England et al). However England et al differs from the current application in several aspects. England teaches a system capable of operating in a privileged mode. The passages cited by the Office Action from columns 5-7 only describe how security levels may be assigned and memory regions may be reserved to facilitate a privileged mode. However, England includes absolutely no disclosure of a communication system employing control codes and standard and privileged modes to facilitate communication, much less extracting encrypted data in a standard mode and decrypting the data in a privileged mode to extract control codes. England does describe standard and privileged modes, but nothing more. England provides no teaching at all of how to use the privileged mode features of the computer system to implement communication. The mere description of a computer system capable of operating in a privileged mode does not inherently teach the features of extracting encrypted data in a

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standard mode and decrypting the data in a privileged mode to extract control codes for controlling the communication. The dependent claims also include additional features that distinguish them from the art of record. Claims 9 and 21 include the additional feature of encrypting the control codes extracted from the previously decrypted data in the privileged mode, sending the encrypted control codes in the standard mode to the physical layer hardware. This encryption represents a second encryption distinct from the encryption previously performed on the incoming data. The incoming data is already encrypted. In the privileged mode, the data is decrypted. The control codes are extracted and then re-encrypted. The encrypted control codes are then sent in the standard mode to the physical layer hardware. England does not describe the communication of control codes at all, much less re-encrypting the control codes in a privileged mode and subsequently sending them in a standard mode in encrypted form to the physical layer device.

Any claims not directly addressed are allowed on the virtue of their dependency.

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Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K. Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy
April 12, 2006



CHRISTOPHER REVAK
PRIMARY EXAMINER



4/13/06